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09/909,716	07/20/2001	Gregory Bret Turetzky	ST00014USU4	1491

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EXAMINER	
TRAN, KHANH C	

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/909,716	TURETZKY ET AL.	
	Examiner	Art Unit	
	Khanh Tran	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 14-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-12 and 14-20* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *06/17/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Amendment filed on 06/15/2005 has been entered. Claims 1-12 and 14-20 are pending in this Office action.

Response to Arguments

2. Applicant's arguments, see page 7, filed on 06/15/2005, with respect to the rejection(s)of claim(s) 10-12 under nonstatutory double patenting rejection have been fully considered and are persuasive after claims were amended. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Turetzky et al. U.S. Patent No. 6,680,695 B2, Washizu et al. U.S. Patent 5,402,441, Lau et al. U.S. Patent 5,504,684, Avis U.S. Patent 6,332,086 B2, and Xin U.S. Patent 6,901,260 B1.

3. The objection of claims 10, 13-14, 18-19 has been withdrawn after claims were corrected for the informalities.

Claim Objections

4. Claim 1 is objected to because of the following informalities: in line 7, "singal" should be changed to -- signal --. Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,680,695 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

claim 1 of the claimed application claims "a method for reducing auto-correlation and cross-correlation in a CDMA receiver, comprising: correlating an incoming CDMA signal, located within a scanned signal window, with a locally generated signal on a first data path; verifying the incoming CDMA signal, located within the scanned signal window, against a lock signal on a second data path; determining, using the second data path, whether the incoming CDMA signal has at least one characteristic which differentiates the incoming CDMA signal from an auto-correlated or cross-correlated signal; and continuing to search the scanned signal window for a

second incoming CDMA signal if the incoming CDMA signal lacks the at least one characteristic".

claim 1 of the U.S. Patent claims "a communications system, comprising: a transceiver capable of using a wireless communications link for transmission and reception of wireless signals; a Global Positioning System (GPS) receiver, coupled to the transceiver and useable for at least computing the position of the transceiver, comprising: a first data path for correlating an incoming GPS signal, located within a scanned signal window, with a locally generated signal; and a second data path for verifying the incoming GPS signal, located within the scanned signal window, against a lock signal, the verification determining whether the incoming GPS signal has at least one characteristic which differentiates the incoming GPS signal from an auto-correlated signal; wherein the GPS receiver can change the locally generated signal to continue to search the scanned signal window for a second incoming GPS signal if the incoming GPS signal lacks the at least one characteristic".

Prima facie case of obviousness: the GPS receiver in the US Patent comprises a first data path for performing correlation of an incoming GPS signal within a scanned signal window, and a second data path for performing verification of the incoming GPS signal within the scanned signal window, against a lock signal, and the verification further determines whether the incoming GPS signal has at least one characteristic which differentiates the incoming GPS signal from an auto-correlated signal as set forth in the application claim. In light of that, the GPS receiver has all the means for performing the steps in the application claim; therefore, one of ordinary skill

in the art at the time of the invention would have recognized the interchangeability of the GPS receiver specified in the US Patent for the CDMA receiver specified in the application claim for performing all the steps as set forth in the claimed invention.

6. Claim 2 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 6,680,695 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

claim 2 of the claimed application claims wherein the first data path, the second data path, and the means for continuing to search are located on a single integrated circuit.

claim 1 of the U.S. Patent claims "wherein the GPS receiver comprising the first data path and the second data path is located on a single integrated circuit".

Prima facie case of obviousness: claim 2 of the claimed application differs from claim 2 of the US Patent in that claim 2 of the claimed application includes the means for continuing to search on the same single integrated circuit. Although claim 2 of the US Patent does not expressly disclose the means for continuing to search on the same single integrated circuit, one of ordinary skill in the art would have been motivated to implement all components, e.g. including the means for continuing to search of the GPS receiver on the same integrated circuit. Motivation is that separate integrated circuits would add complexity to the design and growth in size.

7. Claim 3 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,680,695 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the US Patent claims the same limitation "a Global Positioning System (GPS) receiver".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 3, 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Washizu et al. U.S. Patent 5,402,441.

Regarding claim 1, Washizu et al. invention is directed to a GPS signal receiver suitable for use in regions, which suffer multipath interference. As shown in FIG. 3, in column 4, lines 25-65, a GPS signal receiver according to the present invention, including an RF amplifier 2 for amplifying the received GPS signal, and a frequency converter 3 for converting the received GPS signal into an intermediate-frequency signal for easy subsequent signal processing. The GPS signal as converted into the intermediate-frequency signal is supplied to a PN code correlator 5 which is supplied with a PN code generated by a PN code generator 4, and correlated to be code-stripped by the PN code correlator 5. An

output signal from the PN code correlator 5 is supplied selectively to a signal search unit 7, a signal-determining unit 8, and a signal-tracking unit 9 through a switch 6.

Washizu et al. does not expressly disclose correlating an incoming CDMA signal, located within a scanned signal window, with a locally generated signal on a first data path. Nevertheless, as recited above, the GPS signal as converted into the intermediate-frequency signal is correlated to be code-stripped by the PN code correlator 5 and an output signal from the PN code correlator 5 is supplied *selectively* to a signal search unit 7, a signal-determining unit 8, and a signal-tracking unit 9 through a switch 6. In light of the foregoing teachings, one of an average skill in the art would have recognized that the output signal from PN code correlator 5 is supplied to different paths. Motivation is that depending on the control signal, switch 6 is selectively switched to either one of a signal search unit 7, a signal-determining unit 8, and a signal-tracking unit 9. The correlation process is performed within a scanned widow. In this case, the signal search unit 7 corresponds to the claimed first data path.

In column 4, lines 50-65, the signal search unit 7 searches for a correlated output signal that is supplied from the PN code correlator 5 through the switch 6, and supplies its output signal to the control circuit 11 when the correlated output signal exceeds a predetermined value. The signal determining unit 8, corresponding to the claimed second path, has a RAM 81 having first and second storage areas for storing correlated output signal levels that have been

supplied at different times through the switch 6, and a comparator 82 for comparing the correlated output signal levels stored in the first and second storage areas of the RAM 81. The signal determining unit 8 performs the verification of the output signal from the signal search unit 7 to determine if the detected output signal is produced by the direct wave, corresponding to the claimed auto-correlated signal, or one of multipath waves, corresponding to the claimed cross-correlated signal; see column 4, lines 60-68; column 5, lines 30-55, see also figure 3.

In column 6 line 60 via column 7 line 10, When a correlated output signal peak produced by the direct wave is determined by the signal determining unit 8, the switch 6 is shifted over to the signal tracking unit 9 by an output signal from the control circuit 11. The correlated output signal from the PN code correlator 5 is monitored by the signal-tracking unit 9. The phase of the PN code produced by the PN code generator 4 is controlled by the PN code phase control unit 10 such that the correlated output signal will remain at the peak value in the phase of the PN code at the time the correlated output signal is produced by he direct wave. When the correlated output signal peak is no longer tracked, the switch 6 is shifted over to the signal search unit 7 again by the control circuit 11, and the above process is repeated again. The aforementioned last step corresponds to the claimed step of "continuing to search the scanned signal window ...".

Regarding claim 3, as recited in claim 1, Washizu et al. teaches a GPS receiver.

Regarding claim 5, referring to figure 4, the correlated output signal for both direct wave and multipath signals is proportional to predetermined signal strength.

Regarding claim 6, referring to figure 4, predetermined value is a predetermined signal-to-noise ratio.

Regarding claim 7, in column 4, lines 5-25,FIG. 4 shows different correlated output signals that are compared with each other by the comparator 82 in the signal determining unit 8. A correlated output signal peak, indicated by a curve a, is detected as exceeding a predetermined value by the signal search unit 7. If another correlated output signal peak, indicated by a curve b, is produced when the code of the PN code is shifted into the previous phase, the levels of the correlated output signal peaks a, b are compared with each other by the comparator 82. If the correlated output signal peak b is greater in level than the correlated output signal peak a and produced earlier than the correlated output signal peak a, then the correlated output signal peak b is determined as being produced by the direct wave. Which one of the correlated output signal peaks a, b is earlier than the other can easily be determined because the correlated output signal stored in the second storage area of the RAM 81 is earlier than the correlated output signal stored in the first storage area of the RAM 81.

Regarding claim 8, in column 5, lines 30-50, a correlated output signal is supplied to the control circuit 11 when the correlated output signal exceeds the predetermined

value. Furthermore, as recited in claim 7, the levels of the correlated output signal peaks a, b, e.g. signal-to-noise ratio, are compared with each other by the comparator 82 to determine the direct wave signal and multipath signal.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Washizu et al. U.S. Patent 5,402,441 as applied to claim 1 above, and further in view of Lau et al. U.S. Patent 5,504,684.

Regarding claim 2, Washizu et al. does not teach the components GPS receiver integrated on the same integrated circuit as set forth in the claim.

Lau et al. invention is directed to combining, on a single integrated circuit, an eight channel GPS receiver, a 68330-type microprocessor, a 68681-type DUART serial communications controller, an analog-to-digital converter, a real-time clock, a random access memory and a boot read-only memory. In light of Lau et al. teachings, it would have been obvious for one of ordinary skill in the art at the time of the invention that Washizu et al. GPS receiver can be modified to implement on a single integrated circuit. The motivation is taught in Lau et a. invention that providing an integrated circuit reduces the size, cost and complexity of a GPS receiver and thus improve reliability and performance; see column 1, lines 30-35.

10. Claims 4, 10-12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Washizu et al. U.S. Patent 5,402,441 as applied to claim 3 above, and further in view of Avis U.S. Patent 6,332,086 B2.

Regarding claim 4, Washizu et al. does not teach the step of receiving, substantially in parallel with the incoming CDMA signal, a wireless signal for transmitting and receiving data as set forth in the application claim.

Avis teaches in FIG. 1, column 3, lines 20-45, a functional block diagram is shown of a system in accordance with one embodiment of the present invention. Shown is a first GPS antenna 20 and first GPS receiver 22 coupled to a sleep controller 24, which is coupled to a cellular transceiver 26 and cellular transceiver antenna 28. The first GPS receiver 22, sleep controller 24 and cellular transceiver together make up a communications device 21.

In operation, in column 3, lines 50-67, normal cellular communications take place through the cellular communication channel 32 between the cellular transceiver antenna 28 and the base station antenna 30.The first GPS receiver 22 receives signals from the GPS array 18 via the first antenna 20 and a GPS spacelink 44, including a time standard signal from which the GPS transceiver 22 is able to determine a time reference. The cellular communication signal is substantially in parallel with the incoming GPS signal. In light of the foregoing teachings, it would have been obvious for one of ordinary skill in the art at the time of the invention that Washizu et al. GPS receiver can be modified to collocate with a cellular transceiver as taught in Avis invention. Motivation is taught in Avis invention that the GPS standard time reference is utilized to determine an appropriate sleep schedule for the cellular transceiver 26.

Regarding claim 10, claim 10 is rejected on the same ground as for claim 1 and further in view of claim 4 and 7 because of similar scope.

Regarding claim 11, claim 11 is rejected on the same ground as for claim 5 because of similar scope.

Regarding claim 12, claim 12 is rejected on the same ground as for claim 6 because of similar scope.

Regarding claim 14, claim 14 is rejected on the same ground as for claim 8 because of similar scope.

11. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Washizu et al. U.S. Patent 5,402,441 and Avis U.S. Patent 6,332,086 B2 as applied to claim 10 above, and further in view of Xin U.S. Patent 6,901,260 B1.

Regarding claim 15, Washizu et al. and Avis do not teach the cellular transceiver and the GPS receiver are located on a single integrated circuit as claimed in the application claim.

Nevertheless, Xin teaches in column 3, lines 55-67, as integrated circuit (IC) technology becomes more advanced, it has become possible to combine the base-band functions (and maybe even the RF functions in the future) of both a cellular telephone and a GPS receiver into the same or a small number of ICs, which in turn are

implemented into a cellular telephone/GPS handset. Such cellular telephone handsets include both cellular telephone functions and/or GPS system related services. In light of Xin teachings, it would have been obvious for one of ordinary skill in the art at the time of the invention that Washizu et al. and Avis teachings can be modified to implement the cellular transceiver and the GPS receiver on a single integrated circuit as claimed in the application claim.

Regarding claim 16, claim 16 is rejected on the same ground as for claim 5 because of similar scope.

Regarding claim 17, claim 17 is rejected on the same ground as for claim 6 because of similar scope.

Regarding claim 18, claim 18 is rejected on the same ground as for claim 7 because of similar scope.

Regarding claim 19, claim 19 is rejected on the same ground as for claim 8 because of similar scope.

Regarding claim 20, referring to figure 3 of Avis invention, the GPS receiver and the cellular transceiver share a processor 70; see column 6, lines 1-26.

Allowable Subject Matter

12. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KCT

Khanh Cong Tran 08/30/2005

Examiner KHANH TRAN